Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

tendon pass to the third and fourth toes, some of the fibres go to the second toe, while few, if any, are sent to the fifth.)

But occasionally this muscle inserts entirely into the tendon of the M. flexor longus hallucis. The significance of this condition will be apparent when we examine the arrangement of the parts in the cat. But first let us take a glance at anthropoid anatomy. Among the apes the flexor accessorius is wanting. The flexor longus hallucis, instead of the flexor longus digitorum pedis, supplies the perforating tendons for the third and fourth toes, and in Hylobates, for even the second phalanx as well. In this way it helps out the latter muscle, which supplies, in these cases, only the second and the fifth phalanges, or only the fifth phalanx, while the hallux receives usually only a slender tendon, which, according to Bischoff, is entirely absent in the orang. This muscle (fl. accessorius) seems to be a portion of the primitive M. flexor fibularis, which has given rise to the two muscles, flexor long. hallucis and flexor long. digit. pedis. The accessory portion is not split off in the apes,—it is, in the case of man as well as in the cat, and here its point of origin has grown distad until all connection with the leg has been lost, except in those infrequent cases where it still passes up over the median face of the calcaneum into the region of the leg. In both man and the cat it strengthens the action of the two combined flexors of the digits, and by its lateral pull gives a different direction to their action. Innervation through N. plantaris lateralis (external plantar).

In Felis the accessorius is both less strongly developed and more transverse to the foot axis, in its course, than in man, and it is frequently entirely fibrous without any muscular tissue, *i. e.*, reduced to a mere ligament. When well developed it forms a small flattened plate which arises from the inferior portion of the external faces of the calcaneum and cuboid, from whence it passes inwards and downwards, posterior to the fused tendons of the Mm. flexor longus digitorum pedis and flexor longus hallucis to near where they fuse, at which place it inserts into the internal border of the tendon of the flexor long. hallucis. Usually the insertion is not confined to the internal border of this tenden but involves a greater portion of the broad tendinous plate formed by the fusion of the tendons of the two digital flexors above named. The fusion of their tendons practically makes a single muscle out of these two toe flexors. This is equally true of man. This fact helps to explain the varying insertion in man from a mechanical standpoint.

Briefly summarized.—The accessorius in man usually presents a muscular body, which, however, may be absent, while in the cat it is often absent and normally of much feebler development than in man. In the human subject the insertion is usually into the external border of the flexor longus digitorum pedis, though it may be entirely into that of the flexor longus hallucis, while in the cat the usual and best developed insertion is into the tendon of the latter muscle.

In conclusion, the muscle is an old friend, both in cat and man.

HOWARD AYRES.

The Lake Laboratory, Milwaukee, Aug. 24, 1893.

DAMAGE TO COTTON BY LIGHTNING.

ON July 26, 1893, during a thunder storm there was one heavy report noticed in the direction of some cotton plats. The bolt seemed to have "struck" near the plats. The next day a spot in the midst of the plats was found where the most succulent parts of the plants were wilting. Examination showed no visible injury as the cause. There had previously been no sign of blight or disease, whatever, which could have caused the cotton to droop.

The rows run north and south, and five were affected; three for nearly a rod, the one on the east half that distance, and the fifth on the west very little, only two or three of the tallest plants being affected.

By common consent of those who saw the cotton it was agreed to be the work of the thunderbolt, and was so noted. No place where violence was done could be found in the soil.

Frequent observation during the first month has failed to see any increase in the blasted circle. In the whole space twenty-five or thirty plants have died, while others have low branches thriving and bearing fruit and flowers. If a fungus has done it some plants have *resisted* in part and succumbed in part, or the fungus has but partially done its work.

My notion of a discharge from an electrified cloud is that the interchange between it and the earth charged with the opposite pole is carried on by every leaf and point not repellant to the fluid; that if any plant from a tender annual up get more of the electric fluid than it can safely carry it will be injured according to the strength of the overcharge, even to total destruction, involving appearance of great physical violence, if the charge is heavy; and that the discharges take the line of least resistance, according to the common explanation of the zigzag course of lightning.

If this notion of lightning discharges is correct, is not the supposition that this particular occurrence is due to lightning based on tenable ground? Might not a bolt of lightning descend obliquely from one side or other, and when near the earth be deflected upward, but yet come near enough to the ground to destroy the life in the tallest of those plants while not destroying the low laterals of the shorter plants? Or may not this discharge be considered as having entered the earth through those plants with the observed effect to destroy so many of the first conductors—the tallest ones—and nearly all of the others nearest at hand; while of those furthest out only the highest points were harmed?

FRANK E. EMERY.

Raleigh, N. C., Aug. 26.

ON SOME NESTING HABITS OF THE AMERICAN GOLDFINCH.

IT is probably a truth that every ornithologist has some bird which is his particular care to study; and being myself no exception to the rule, I thought perhaps a few notes on the nesting habits of the American Goldfinch, observed while collecting a large series of their nests and eggs, might be acceptable to the readers of *Science*.

Although found in southern Michigan throughout the winter in scattered flocks, it delays nesting until the latter part of July or the first of August. On studying the nests of the Goldfinch all will be found to be at least slightly different, yet there seem to be two distinct patterns in their architecture. The first and most common form is massively built and forms a thick cushioned receptacle for the eggs. An example of this class, which I have before me, has walls about an inch thick, while the distance to the bottom of the crotch in which it is situated is about three inches. The whole mass is composed of very fine fibres and thistle-down; and as this pattern of nest is usually situated where the twigs are thickest, it may easily be seen what a useful purpose it serves in deadening the force of a sudden blow or jar, which might otherwise result disastrously to the eggs. A two-storied nest of this kind I found in a blackberry bush on August 3. The lower